ISSN: 2755-0192

Journal of Psychiatry Research Reviews & Reports

SCIENTIFIC Research and Community

Review Article

Open Access

Remember Darwin: Individualism, Neuroscience and Language

Jolyon Grimwade

Mental Health for the Young and their Families (Victorian Group), Change Consultations, Australia

ABSTRACT

Individualism has been a constant theme of the development of child and adolescent mental health since at least 1870. Freud's *Scientific Project* is an exercise in neurological individualism as have many subsequent neuroscience projects. Just because bodies contain neurological and chemical circuits, it does not mean that mammalian animals are discrete. Mammals live in communication networks and humans have evolved to make those networks linguistic. It is species adaptations that are manifest in the lives of single members of a species and provide for fitness to environment. The many biological scientists that call themselves neurologists have been prone to misunderstand this Darwinian premise.

***Corresponding author**

Jolyon Grimwade, Mental Health for the Young and their Families (Victorian Group), Change Consultations, Australia.

Received: October 01, 2024; **Accepted:** October 09, 2024; **Published:** October 15, 2024

Language is an evolved characteristic of the human mammalian species to the point where all human activity is immersed in language. Humans, by reproducing their young, reproduce language. The species has adapted so well to its environment that it can alter environments with words. The development of scientific language has created processes of manufacture that were impossible without words. Unfortunately, such processes now threaten the viability of basic elements of the environments in which, hitherto, the species has thrived. But all is not lost: we can save our ecosystems by the shared purpose of reduction of greenhouse gases. This can only happen through language.

Humans are so immersed in language that, like air, they have failed to recognize its significance for life as we know it. Neuroscience has failed to recognize that for all the mapping of the human nervous system, that the human body is not independent of its environment. Without the descriptive systems of neuroscience, our understanding of how each body functions, would be impossible. But bodies function in interaction with other bodies and cannot survive without such interaction and interdependency. This interaction happens through language and is coordinated by language.

Freud's *Scientific* Project was never realized, despite efforts to revive the idea (1915, 1923) as discussed by Solms [1,2]. Freud tried to map what Strachey called Id, Ego and Superego, onto discrete parts of the brain. Others from the time of Plato have described a tripartite brain (Christfried Jakob's tripsychic brain; Paul McLean's triune brain; Robert Sternberg's triarchic brain [3]. Solms systematically updates Freud's 1895 paper with contemporary terminologies and has seventy-two annotations to the original, yet the emphasis remains upon the individual's brain, rather than upon the language that is needed to describe the species-specific human brain [2].

Medical science can describe what happens when a particular brain malfunctions or is damaged. This gives insight into brain functions, but does not document the integrated, coordinated functioning of the brain as communication occurs between people. The underlying Individualistic belief is that the brain is the source of our humanity. It is the processor of our humanity, but our humanity lies in the communications between ourselves: our language has been around for very much longer than anyone particular body.

Etymologically, the word individual has the Latin root "videre" meaning to see (same root for evidence and video). It has an adjectival suffix -ual, which can also be used for nouns. It has two prefixes: in- negates, the duality of di-. Literally, then unable to be seen in parts; that is, a whole unto itself. This translation is not pedantry on my behalf. I prefer person, which also has a Latin root, this time "sonare" to hear (as in sonar) with the prefix per- which usually is taken to mean with or by, but Sanders suggests the translation of person should be "sounding through" [4]. That is, we know ourselves through the conversations with others and the feedback they supply. Individualism is the belief in social functioning based on the unit of interaction as separate and self-resourcing; the idea is central to Western thought. The major proponent was the philosopher John Stuart Mill who was translated into German by Sigmund Freud [5].

Freud claimed that the Unconscious was a third decentring of humanity, following the observation of his mentor Emil de Bois-Reymond in an 1882 obituary for Charles Darwin, described Copernicus as decentring astronomy and Darwin as decentring biology [6]. But Freud's Unconscious is of the individual not the species. The third decentring occurred long before the other two and created the circumstances for communities of enquiry to form and ask significant questions about the universe. The first decentring occurred with the emergence of language within the species. New words may be said and in new combinations, but mostly we rely upon language to do our speaking.

The evolution of biological science has happened through observation of bodies in isolation from others. This has happened in parallel with other scientific, technological, economic, and political developments that have focussed upon individuals. In fact, it might be argued that accepting bodily independence has allowed for observations to happen without concerns for context. This dispensed with having to deal with Heisenberg's Uncertainty Principle (HUP) [7,8]. But the HUP has bitten back: by not considering the effect of the experiment upon the body, biology is more often the science of the dead or near dead tissue, excised from the other body parts and from humanity. We live between people, in our talk.

In psychological practice, one has to deal with the HUP and the effects of observations upon the patient. Patients can become annoyed or distressed by some observations, especially if the therapist's observations direct attention to an unrecognized truth about the patient. In psychodynamic practice this is called transference and may be discernible through countertransference. Academic psychology has distrusted the psychodynamics of transference as much as they avoided the HUP, although the Hawthorne effect and the placebo effect are similar phenomena, that have been studied formally. With transference, it is the capacity of the therapist to appreciate the effect of an observation upon the patient, that leads to a response to a patient's response to the observation, that takes the HUP into account. In the sub-atomic sphere, an electron cannot communicate the effect of a colliding other electron upon itself, but with humans, a metacommunication about such collision is possible and, often, insightful. Transference occurs between people.

With Individualism, there is no between people. There are singular bodily entities who may communicate information to other singular entities, but the interaction is not considered significant in effecting the position of the either party, especially the bodily integrity of either party. Neuroscience operates on singular entities that may be individuals, but often is concerned with bodily substrates such as nerves, brain structures, and bio-chemistry. Again, these are treated, largely, as independent in their functioning.

In the following, I examine four approaches (Bowlby, Siegel, Greenfield, Kozlowska) to neuroscience that all founder on the idea of Individualism. There are two related branches of psycho dynamically informed psychological research that do attempt to take into account the interaction between people, especially the interaction between babies and care givers: Bowlby's attachment theory and Siegel's interpersonal neurobiology [9,10]. But these quickly revert to Individualism as does the neuroscience of consciousness of Greenfield, and the clinical practice of Kozlowska.

Bowlby considered his final work: a biography of Charles Darwin as his finest [11]. It is hagiography on a grand and detailed scale, as it tries to establish why it was Darwin, alone, who could have come up with his theories: eventually, according to Bowlby, it was the maternal death when young Charles was eight years old that sets the course of Darwin's life. The focus on the individual person of Darwin is total. Yet it was the (interactive, between people) language capacities of the species that enabled the production of ***On the origin of species***.

Attachment theory has enabled the important work of Ainsworth, Crittenden, Fonagy, Holmes, Hughes, Main, Schore, Siegel, Stern, Trevarthen, and Tronick [12-23]. Output has spanned interpersonal research, early childcare, parenting, therapy, and in application to cases of child protection intervention. It can be argued that the categories of attachment articulated by Ainsworth may be an artifact of methodology. But in any case, the focus is upon the particular child and the particular mother. It was unclear if attachment is a biological or psychological phenomenon. Attachment is a theory of love, but not a theory of hate: hate is the effect of the absence or withdrawal of love. There is only one primary human emotion: love.

Most important is that the phenomenon described by attachment theory can be described without the use of attachment terms: babies need to be close to their mothers. They come from physical closeness and need to adapt to the loss of this closeness, as do mothers. I think Trevarthen's notion of adventures in companionship makes sense at a species level [21]. Similarly, Panksepp's theory of the seven basic emotions is a theory applied to all mammals [24].

Siegel's Interpersonal Neurobiology (IPNB) has been recently rendered by Siegel and Drulis [10]. Underpinning IPNB is the belief that attachment theory is a proven phenomenon. As indicated, this is an error as it is based on Individualism and in a romantic version of what love is, to the point where there are no other primary emotions and hate is the absence of love.

The introductory part of then IPNB paper sets forth the proposition that clear definitions are needed for terms like mind, self, mental, health, identity, as a means to then build an understandable model for the practice of mental health consultation, particularly with respect to suicidality, but also with respect to autism.

These definitions meet the intention of Siegel and Drulis [10]. But, the understanding of language and sometimes of words is not sound. The term "identity" is not some sort of description of uniqueness: the opposite is the truth. Identity in analogical mathematics is one and is always one. In digital or binary mathematics, identity is zero and is always zero. I think this error of understanding goes back to Erik Erikson's use of the term "a sense of identity" for the adolescent: this is a psychological state of relative deficit [25]. But one is always one, even if one feels less than one. Mathematics would fail if the basic building block was variable.

Secondly, I prefer personhood to cover several of the other terms Siegel and Drulis' attempt to define [10]. Individual is a problem as pointed out in several places in the second part of their paper, but is used mostly as a synonym for a skin-encased body.

Clearly this is an interpersonal definition. The terms of personhood used in common conversation, "me", "myself", and "I", separate the subject (me) from the agent (I) and the continuity of the experience of others that is felt to be the object (self). The last part is my preferred definition of self. In my work with ASD people, there is a marked lack of understanding of self by the ASD person, due to the constant battle between the sensory and the cognitive ("me" versus "I"). This is significant in two ways as the autistic person has no firm idea what a self is, and the neurotypical person does not understand that a basic idea like self is not comprehended by the ASD subject. This miscommunication occurs between persons, or in the inter- as Siegel and Drulis called it [10].

Siegel and Drulis were at pains to distinguish mind from brain, and this distinction should be made, but they are clumsy with this distinction [10]. If mind is a shared experience of meaning, then this occurs within language, in the repertoire of gestural, tonal,

spoken, and symbolic communication. Mostly, they describe mental phenomena as housed alongside the brain, but somehow spilling over into the inter- ether.

Mostly, Siegel and Drulis' use of language terms is linguistic, at best [10]. Their use of words is rather like the use of Lego blocks and their use of acronyms reinforces the idea that there is a phenomenon beyond language that articulates experience. This could be the therapist's mind, but it leads to a circle of inadequate definition of what mind might be. For me, mind is what happens (an effect) between people able to use symbolic forms of communication.

There are some sources of thought upon their thesis that Siegel and Drulis' might have accessed [10]. They quote Newton, but do not consider Darwin, who wrote of species characteristics, rather than those of lone persons. Language is a species characteristic. We live in language. Meaning speaks us. This is our species inheritance. Also, the other important species in heritance has been well described by Panksepp with his seven basic emotions of mammals. I do not think Siegel and Drulis' have known of this work [24].

I wonder, also, if Siegel and Drulis know of the work of Humberto Maturana (Chilean biologist, who was a big influence in family therapy in the 1980s) who described open systems as closed to all but information and energy, just as Siegel and Drulis do [10,26]. Maturana wrote about languaging using a verb. This reviewer is not overly convinced by Maturana, but Siegel and Drulis' might have found some resonance.

I think Siegel and Drulis argument that aligns Newtonian physics with nouns and quantum physics with verbs to be linguistic, but not clear, especially when they are trying to tie in energy with these ideas [10]. The reduction of activity to conservation of energy ignores the significant species capacity to manage information. Information management is a species adaptation that reduces the need for energy expenditure. Information management is an emergent characteristic of complex systems.

Emergence is the important phenomenon. It occurs in language more than anywhere else. Yet most of what can be said has been said already, just with slight variations in word usage and word order. The apparent freshness of any statement is that it is fresh to the context, the listener, and maybe the speaker. This is why so many ancient texts still speak to us directly. Emergence is often recycling, especially in therapy, where words are the medium. It is not reducible to energy or anything else.

Siegel and Drulis' do recycle and re-style certain words through pithy acronyms. Resonance, as described, might be counter transference [8]. On the other hand, COAL (Connected, Open, Aware, Love), PART (Presence, Attunement, Resonance, Trust) or SPA (Sensation, Perspective, Agency) maybe the source of the placebo effect. I find the Wheel of Awareness rather tiresome. I am sure that Kabat-Zinn knows that mindfulness is one of the eight Buddhist Noble Paths [27,28]. Why in Western psychology did we go for just one of these? I believe this is because it is the truly Individualistic path. And what about the four Noble Truths (Rahula)? Maybe these are due for recycling, as well? The Wheel of Awareness is a very Individualistic idea.

Mental health practitioners need to go beyond the trap of Western Individualism while accepting that our patients are more often than not Westerners. Siegel and Drulis try to engage with First Nations' ideas on spirituality but have a very loose notion of what spirit is [10]. Etymologically, there is a Latin root "at end of line around to breathe". In my imagination, the origin of the term was based in ancient observation that there are three sorts of things: those that breathe (live), those that once breathed (dead), those that never breathed (rocks). In some cultures (Maori), water is in the breathing category as it runs down slopes with a gurgling sound taking in air (which we now know includes oxygen). The ancients attributed the distinction to something beyond the natural. To something all powerful and life-giving. Spirit and soul are inferences that survive in communities of religion.

If our thought moves inside the species to skin-encased bodies, all sorts of errors of thought can be generated. Baroness Susan Greenfield is an impressive presenter and quite evidently a rigorous and curious neuroscientist. Her work has depth, scope, and audacity. But I have eight problems with her presentation in Melbourne in February, 2020. Before the seminar, I suspected that Greenfield did not have a cogent theory of person or language. The eight problems I identified were

- The individual focus of research; not species
- Implied separateness of individual from language
- Belief in consciousness without language
- Belief in evolution occurring outside of language
- The effect of the Heisenberg Uncertainty Principle on consciousness research and the hypothesized neuronal assemblies
- The lack of consideration of Panksepp's basic emotions of mammals in discussion of pleasure and fear
- Avoidance of how all is rendered in language
- Mediation (neural, bio-chemical) confused with cause

Greenfield identified the Latin root of "cortex" as meaning tree bark. The use of language is shown in its modern scientific idiom; excellent [29]. But she did not question the root of addiction, individual, or evidence. For her these are givens, epistemological primitives, even if, for instance, the root "dict" means "to speak" from Latin verb "dicere" (that is, addiction means a habit in place of speaking; we have long known that speaking about our problems helps to resolve them! … see [30]). In its etymology, addiction is cognitive.

Greenfield's presentation on the difference between the human mind and computer processing was fascinating [29]. The simple conclusion that we should let computers and machines do what they do best and do what we do best is a fair summary of my own thoughts. As was said, brains and silicon are different stuff. Neural networks are complex systems of biochemical weaving. Not direct circuitry. Interestingly, her description did not venture into the world of electro-circuitry and information processing in the way she allowed herself to venture into psychology. But clear and important points were made; the most important being that brains are within bodies and are not separable.

But the topic of most interest for Greenfield is consciousness [29]. Again, her understanding of language is limiting. Like most of us, she found consciousness mysterious and was careful to distinguish it from mind and brain. She was keen to note that there are grades of consciousness and of unconsciousness (as demonstrated by levels of anaesthesia). She does not search for an on/off switch! Yet, there is no mention of the role of language of giving meaning to mind, brain, or consciousness. It is as if language exists outside such individually manifested features of human experience.

However, the thing most tricky about consciousness is that it has three versions: "me" (subject), "myself" (object), and "I" (agent or actor). Freud's translator, James Strachey, put them all into the one Latinate term "ego" to make it seem scientific, even though Freud used each of the three terms to identify a person [31-33]. Perhaps it is the remarkable quality of consciousness that we can experience each of these states simultaneously. Further, perhaps this simultaneity underlies the important distinctions Greenfield wanted to make between the cognitive and the sensate and the immediate and the sequenced? [29].

Greenfield asked about consciousness in foetuses [29]. She did not acknowledge the work of Delafield-Butt and Trevarthen on intra-uterine movements having a narrative structure even before the cortex has formed [22]. This research does fit well with her thoughts on sequencing and narrative. It is probable that she does not know of the research or that she wanted to avoid opening up another tangent.

In a similar vein, Greenfield's exploration of the emotions of pleasure and fear was seeking to make a statement about primary emotions [29]. But she linked these to her discourse on sequencing and immediacy. She argued that pleasure and fear might be two sides of the same emotional coin and used a photograph of people on a roller coaster to demonstrate that such stimulus can promote different emotional responses. While fear is a basic and immediate emotional response that is probably pre-cognitive, pleasure is layered, including simple emotions like joy and play, but also including the effect of a time series (sequence of events) and the associated outcome of the series. But one would think that the equivalence exemplified in the coin would have to have the same time frame and the same immediacy.

Language, in Greenfield's view is, at best, the production of words with which to communicate and to solve problems [29]. Language springs from a rich, inner world she calls consciousness and is a central characteristic of the phenomenon she calls mind. But the actual relationship between consciousness, mind, and language cannot be articulated, neurologically. Language in these terms is interactional, not individual, and not easily commensurable with ordinary ideas of science. This is my central concern with Greenfield's move into psychology and sociology; but there are other issues, as well.

Greenfield is a romantic individualist and comes to such a position of social theory from the comfort of her outstanding neuro-biological research [29]. She thinks she studies individuals. I think she studies neural processes that occur within mammalian bodies. The medium for the investigation might be a laboratory mouse or a human being, and their behaviour may be one of many phenomena used to indicate experimental effects, but she is not studying a human individual.

In any case, Greenfield's version of a human individual does not live in a laboratory [29]. They are free to think and be creative as they encounter the richness of life and live alongside others with compassion, respect, and joy. This leads to the third problem that confounds Greenfield's research and, yet, made it compelling for many: her lack of understanding of how language constrains human activity. Her individual is free, good, and creative.

Further, persons prefer to listen, while individuals tend to assert. In *The other side of language: a philosophy of listening*, Corradi-Fiumara recalibrated much of Western discourse through the Ancient Greek idea of "logos", which can be translated as "words" or "meaning", but it is both and more [34]. "Logos" is a cycle of understanding whereby the speaker comes to recognize that the listener has understood what has been said by, usually, a gestural exchange of understanding (perhaps, a nod of the head). But more, the listener understands that the speaker has understood that the listener has understood, and that the listener understands that the logos has been completed. We enact the logos as we seek to leave a conversation, whether in person, on the telephone, or by text message. We cannot complete until each person acknowledges the completion.

There is a major problem with the argument I present here: it is difficult to get Individualists to see their bias ("that's your opinion" is the politest response, in proper individualist manner!). I have rarely been successful in explaining what I consider to be a very simple idea: that language speaks us. Language has been around for much more than 30,000 years, if not a million years. Once achieved, humans have lived in language; not lived with language. Babies are born into language, acquire speech skills, and enter language about the time they enter school. The tardy school attenders will suffer separation anxiety or can be very difficult to get to sit still. From then on, the human task is to use language, to serve language, and to live in effective communication with those we encounter. All of this is built on our exquisite neurology with its many signalling and processing capacities, but these phenomena exist in a domain tightly structured by the social possibilities of language.

Penelope Lively said it better in her novel *Moon Tiger*
"We open our mouths and out flow words whose ancestries we do not even know. We are walking lexicons. In a single sentence of idle chatter we preserve Latin, Anglo-Saxon, Norse: we carry a museum inside our heads, each day we commemorate peoples of whom we have never heard. More than that, we speak volumes – our language is the language of everything we have read. Shakespeare and the Authorised Version surface in supermarkets, on buses, chatter on radio and television. I find this miraculous. I never cease to wonder at it. That words are more durable than anything, that they blow with the wind, hibernate and reawaken, shelter parasitic on the most unlikely hosts, survive and survive and survive (p.5)." [35].

As another aside, it needs to also be asserted that Individualism is anti-Darwinian thought. Any attempt at Social Darwinism, where the idea of the survival of the fittest is translated into economics where the rich (or powerful) are seen to be the fittest, has been shown to be scientific nonsense. Darwin was only ever writing about species level evolution. Individual psychology, for Darwin, was an effect of evolution [36].

Greenfield is keen on understanding [29]. Understanding is deeper than knowledge and knowledge is deeper than the information dealt with by computers. There is another deeper level: wisdom. To be able to understand without self-interest and to guide action that is harmonious requires wisdom.

Kasia Kozlowska is an adolescent psychiatrist with a strong interest in neurobiology and Functional Neurological Disorders (FNDs). Freud called these hysteria [1,37]. It is when psychological factors produce physical states akin to actual physical injury.

Kozlowska presented a case of FND in a small child [38]. I have called this a case of medical enmanglement. At eight years, while

playing soccer, Paula fractured a femur. This hurt a lot, and the pain did not go away, even though the leg healed well. Repeated medical enquiry was not able to reveal any cause of the ongoing pain. Paula became reluctant to participate in sports and fell to the outer of her school social groups.

At ten years, amid severe bullying, Paula was pushed over and hurt her left shoulder and arm [38]. Medical examination revealed minor effects of this buffeting, but Paula was in marked pain. Her doctors could not convince her of the lack of damage or of the lack of evidence of pain. This was when her much loved maternal grandfather was diagnosed with cancer and declined over several years.

At thirteen years, her paternal grandfather, a much more remote figure, died suddenly, while Paula's pain continued unabated [38]. Her maternal grandfather was significantly ill at this time. She was losing eyesight in her left eye. Again, the cause was not physical, but she could not be convinced otherwise. The case was referred to Kozlowska's team and a diagnosis of FND, based on several measures of the whole-body system, was made.

The three-week intervention that eventuated was for FND: the family and Paula were keen to recover [38]. The intervention was multi-faceted; she required help with her sleep cycles which had been very disturbed, and this was aided by medication. She needed exercise to tone up and to recover her energy levels, as well as turning her macrophages (specialised cells involved in the detection and destruction of bacteria) from negative action to positive action. Her diet needed improvement and based on natural rather than processed foods. Her mood was low, and this was supported by a low dose of anti-depressant. Coincidentally, she also received a very big dose of psycho-education, as did the parents.

Finally, Paula received "bodytalk" as a means to regain ordinary metabolic function. "Bodytalk" is a method of psychotherapy developed by Kozlowska to treat FND [38,39]. Paula also attended the hospital school to boost willingness to participate in school and confidence in learning. After three weeks, she was discharged and was well and attending school at follow-up one year later. She had been unmangled.

The original treating team were committed to their neuro-bio-chemical version of the body and to fixing the body as a means to Paula regaining psychological health [38]. The results are compelling, as are the explanations of the neuro-bio-chemical processes that were said to underpin the disorder. However, just because an employed method produces sound outcome, it is not a sufficient explanation of how the disorder developed or was resolved. Recovery occurred within four specific contexts and two broader contexts.

Firstly, the problem arose within a physicalist framework that amplified physical symptoms, rather than allayed fears of damage [38]. Repeated physical investigation by various specialists amplified the physical manifestations of distress and closed the family to other explanations. It is uncanny that the more she was seen by medical professionals, without them finding evidence of physical damage and without them seeing the problem as Kozlowska eventually did, the worse her own sight (and insight) became.

This case was iatrogenesis in action: medical enmanglement. Focus on a small zone of the body enhanced the symptoms and avoided contemplation of the body as an integrated whole. By taking the physical symptoms seriously, Kozlowska's team, using physicalist metaphors, were able to deconstruct the symptoms [38]. Being able to speak the institutional vernacular, the symptoms resolved with physical interventions underpinned with "bodytalk". Institutional vernacular was the second context in which the intervention occurred.

Thirdly, the body was reduced to four overlapping circles in a Venn diagram (stress-system model: where "brain-body stress systems - the hypothalamic-pituitary-adrenal (HPA) axis, autonomic nervous system, immune-inflammatory system, and brain systems underpinning pain, arousal, and emotional states - are interconnected and form part of a larger integrated system", p. 151), with all other body parts as appendages to these circles, and all effects mediated by bio-chemical processes [39].

The idea of "stress" is peculiar, although well and truly part of the vernacular. Stress is not the right word; strain would be better, as stress is the application of a force through a plane, whereas the effect of this force is strain. Pollock has provided a most compelling argument on the modern mythology of stress [40]. Just because the body reflects emotional states at various levels (bio-chemistry, nervous system, immune-inflammatory system, HPA axis …), does not mean this can be called a constellation with a singular origin called "stress". Nor does it follow that stress is the organizing principle or that cortisol levels are a measure of stress. At best these are mediators of a larger drama.

There is a lot of science on the presence of certain indicators, but not much on what takes these away: diet, exercise, changes of context, and conversations are implicated. Drugs can have short-term effects. As Pollock argued, one of the most insidious aspects of "stress" is that, when mentioned, it usually discourages social exchange in a way that treats stress as an ordinary objective aspect of life that cannot be moderated [40]. "Worries", "upset", and "nerves" can be talked about with others to alleviate the negative effects of these phenomena. "Stress" explanations defy talking through as a means to recovery.

But more: the stress-system Venn diagram circles of Kozlowska were rigid embattlements to the essence of the person (which she called the Castle-Fortress metaphor) [38]. Strangely, these embattlements were penetrable with words. A certain sort of "bodytalk" created the problem, explained the problem, and then deconstructed the problem, all centred on the body of one teenage girl. This girl was always located in language, but successive treaters (enmanglers) ignored the practices of listening for cure, preferring speaking for diagnosis.

The context of the construction of the disorder was avoided; calling out iatrogenesis is not a wise strategy in medical institutions. A fourth context of conversations meant school was downplayed. It is unclear how the pains played out among the peer group, but she went from being part of a sports' team to being on the edge of her group and being injured. Eventually, she found attending school difficult. She then become partially blind (perhaps, she was sick of being seen by people who were blind to her distress). It is very probable that she felt herself to be a target; to have been singled out, with her disease beyond talk, and no longer wanted to see her disturbance.

This is one of two broader contexts from which to regard Paula's illnesses. The individual is a Western economic idea, not an empirical one, that locates the body in a particular social and physical place. Acceptance of this place of illness places her outside the conversations of recovery.

The second broader context was the location of Paula's body as medium for her individualization. The assumption of separateness and discreteness of form was never questioned, even though other contexts shaped her experience [38]. Attachment theory, as a biological theory, was used to explain the steps toward recovery, even though these positive attachments were not seen to be protective during the course of her illness [10]. The family worried and the family supported, providing a strong context for recovery, yet the focus remained on the neuro-bio-chemical essence of the child. The constant flow between biology and talk was not analysed by Kozlowska.

One can imagine an exchange between the final medical specialist and Kozlowska
Specialist: "Well that's it for us; over to you … what will you do?"
Kozlowska: "We will use the stress-system model: we will boost immunity, lower inflammation, tweak the HPA Axis; that sort of thing".
Specialist: "Interesting: how will you do that; this has been hanging around for about six years …".
Kozlowska: "Simple really, over three weeks we'll ensure good diet, good sleep, good exercise, and plenty of talk with the patient and her family. Oh, and we will get her back into school and boost her sense of wellbeing, generally …".

While the foregoing analysis of Paula's case can provide an alternate version of how she recovered, it does suggest a way of conducting the therapy by a means other than bio-chemical causation. If an assessing doctor had recognized that the explanation of no physical cause was not able to be accepted by the patient or her family, the doctor could have referred immediately to Kozlowska; alternately the diagnosing doctor could say something like: "I can see that the lack of evidence for a physical cause has confused or upset you. It would be very helpful to you if we could find a physical cause, just as it would have been helpful with other injuries in the past. This is a terrible ordeal that you have all been through: the pain, the worry, and the disappointment of not having any clarity. This ordeal seems likely to go on".

Questions could be asked of the parents: "Can you imagine what life would be like if you all did not have to worry about Paula's pain? What would be different? How would home life be different? Would school life be different, as well? What differences would these be? Would work life for you, the parents, be different?"

The doctor may be able to help the family with these questions and they might come to see how the ordeal controls much of their experience. They would then be ready for referral to Kozlowska or to an outpatient family therapy team. If Kozlowska got the case directly, or after this intervention from the referrer, work could immediately start on the idea of a lived ordeal as central to family life [42].

From the case material provided, the major perpetuating factor of the pain outside the family is likely to have been the peer group [38]. The child needs the pain to validate her place with respect to her peers. They are likely to see her as always having pain and may regard her as some sort of drama queen or faker. Neither description could be rejected, except by diagnosis of a physical condition. That is, Paula's reputation could only be upheld by a physical diagnosis. The hospitalization did provide evidence to the peers of a real, physical problem. The question became: could the treatment team find a way around the reputational problem that Paula's past pains had engendered?

It may well be that hospitalization remained the best option to provide evidence to the peers. But the treatment team could spend time discussing ways to re-build a reputation, just as they could talk with the family about how life might be different if the pain went away. It could be useful to consider how much time, and enjoyment had been lost to pain over the years. Incidentally, Kozlowska did not mention the notion of secondary gain in conversion disorders, which is a long-documented feature of what have become FNDs, and treatment previously included attention to understanding the secondary gains, but Kozlowska wanted to place FND in the bio-chemical domain [38].

This is not to say that "bodytalk" would not be useful [39]. Paula gaining a sense of bodily competence would be really important and how small pains need not signify a terrible future (anti-catastrophizing intervention). It would also be useful to discuss the illness of loved ones, as well; no doubt, this did happen in Paula's case, but the talk would be brought to the fore, not hidden behind bio-chemical explanation. It is extremely significant that low level ordinary intervention produced bodily change from a chronic condition of six years duration. Up to the point of transfer, bio-chemical, neurological explanation seems to have kept her ill.

Simply, inpatient therapy could have been enacted that did not involve the bio-chemical explanations with focus upon family communication with each other and communication with outside systems. That is, the complexity of the physicalist explanations might not need to have been entertained: these are mediating factors that can enhance understanding of bodily processes. Simple attention to the communications could have resolved the problem and quite possibly did (although it is not possible to be sure given this was a case only partly reported).

Neuroscience is a way of speaking that cannot exist outside of language even if the phenomena described would prevent language in an individual if damaged. We live in language, through our lives we reproduce language. We are at the mercy of gravity, physical impacts, and evolution, but language enables adaptation. We need to speak with each other and find solutions to climate change and many other problems, like war, or we will be truly decentred. Without Darwin's observations about species, it would be difficult to imagine neuroscience, but probably the notion would have emerged through others. It is strange that neuroscience has not heeded that it is the survival of the fittest species that matters; not the survival of individuals.

One of my favourite books is *Body criticism* by Stafford [43]. In a beautifully prepared text and set of plates, Stafford demonstrated how the advances of Renaissance and Enlightenment medicine were facilitated by the accuracy and creativity of the artist who rendered images. New images made for new words which have made for new explorations and documentation, but these are always, finally, rendered in words..

Much like Humpty Dumpty in Carroll's *Through the looking glass* [44]. In chapter six, Alice was affronted by the use of the word "glory" to mean "a nice knock down argument": "When I use a

word," Humpty Dumpty said, in rather a scornful tone, "it means just what I choose it to mean - neither more nor less."
"The question is," said Alice, "whether you *can* make words mean so many different things."
"The question is," said Humpty Dumpty, "which is to be master - that's all."

This writer is with Alice: language takes precedence over individuals and has for millennia, we just did not like such an explanation. The way to recover the body of flesh, blood, heart, and soul, experienced as an integrated whole by persons living their lives, is through language, borrowed from others from long ago. The skin-encased body of nerves and chemicals mediates experience, rather than drives action and affection.

In the end, word usage is the clinical art *par excellence*. Behind all words chosen are rich histories of usage. Medical enmanglement is a new word to describe a process destructive to bodies. It is a process blind to how speaking can shape the target of professional action and the response of the person. Neuro-plasticity is a relatively new word to describe recovery of function of neuronal damage [46-50]. But maybe this is really logoplasticity: new ways of speaking that allow recovery of function foreclosed by past negative description.

References

1. Freud S (1895/1950) The project for a scientific psychology. Standard edition of the complete psychological works of Sigmund Freud. London: Hogarth Press and the Institute of Psychoanalysis 1: 283-397.
2. Solms M (2020) New project for a scientific psychology: general scheme. Neuropsychoanalysis 22: 5-35.
3. Triarhou L (2009) Tripartite concepts of mind and brain, with special emphasis on the neuroevolutionary postulates of Christfried Jakob and Paul MacLean. Cognitive Psychology Research Development pp: 183-208.
4. Sanders B (1996) Sudden glory: laughter as subversive history. Boston: Beacon Press.
5. Molnar M (2008) John Stuart Mill translated by Siegmund Freud. Psychoanalysis and History 1: 195-205.
6. Weinart F (2009) Copernicus, Darwin, and Freud: revolutions in the history and philosophy of science. New York: Wiley.
7. Heisenberg W (1930/1949) The physical principles of the quantum theory (Trans C Ekhart & F Hoyt). New York: Dover Publications.
8. Heisenberg W (1958) Physics and philosophy: the revolution in modern science. New York: Harper & Row.
9. Bowlby J (1988) A secure base: parent-child attachment and healthy human development. Available at: https://www.increaseproject.eu/images/DOWNLOADS/IO2/HU/CURR_M4-A13_Bowlby_(EN-only)_20170920_HU_final.pdf.
10. Siegel D, Drulis C (2023) An interpersonal neurobiology perspective on the mind and mental health: personal, public, and planetary well-being. Annals of General Psychiatry 22: 5.
11. Bowlby J (1991) Charles Darwin: a new life. New York: Norton. Available at: https://www.abaa.org/book/173395514.
12. Ainsworth M, Blehar M, Waters E, Wall S (1978) Patterns of attachment. A Psychological study of the strange situation. Available at: https://mindsplain.com/wp-content/uploads/2021/01/Ainsworth-Patterns-of-Attachment.pdf.
13. Crittenden P (2015) Raising parents: attachment, representation, and treatment. London: Routledge https://www.taylorfrancis.com/books/mono/10.4324/9781315726069/raising-parents-patricia-crittenden.
14. Fonagy P, Gergely G, Jurist E, Target M (2002) Affect regulation, mentalization, and the development of the self. Other Press.
15. Holmes J (1994) John Bowlby and attachment theory. London: Routledge.
16. Baylin J, Hughes D (2016) The neurobiology of attachment-focused therapy: enhancing connection and trust in the treatment of children and adolescents. New York: Norton. Available at: https://psycnet.apa.org/record/2016-42860-000.
17. Hughes D, Baylin J (2012) Brain-based parenting: the neuroscience of caregiving for healthy attachment. New York: Norton.
18. Main M, Solomon J (1986) Discovery of a new, insecure-disorganized/disoriented attachment pattern. In Yogman M, Brazelton TB (Eds), Affective development in infancy. Norwood, NJ: Ablex pp: 95-124.
19. Schore A (1994) Affect regulation and the origin of the self: the neurobiology of emotional development. Hillsdale, NJ: Erlbaum.
20. Siegel D (2001) Toward an interpersonal neurobiology of the developing mind: attachment relationships, “mindsight,” and neural integration. Infant Mental Health Journal 22: 67-94.
21. Trevarthen C (2005) Stepping away from the mirror: pride and shame in adventures of companionship: reflections on the nature and emotional needs of infant intersubjectivity. In Carter C, Ahnert L, Grossman K, Hardy S, Lamb M, Porges S, Sachser N (Eds). Attachment and bonding: a new synthesis. Cambridge, MA: MIT Press.
22. Delafield-Butt J, Trevarthen C (2015) The ontogenesis of narrative: from moving to meaning. Frontiers in Psychology 6: 1-16.
23. Tronick E, Als H, Adamson L, Wise S, Brazelton TB (1978) The infant’s response to entrapment between contradictory messages in face-to-face interaction. Journal of the American Academy of Child and Adolescent Psychiatry 17: 1-13.
24. Panksepp J (2013) How primary process emotional systems guide child development: ancestral regulators of human happiness and suffering. In Narvaez D, Panksepp J, Schore A, Gleason T (Eds.) Evolution, early experience and human development: from research to practice and policy. Oxford: Oxford University Press.
25. Erikson E (1954) Identity: youth and crisis. New York: Faber.
26. Maturana H, Varela F (1992) The tree of knowledge: the biological roots of human understanding (Rev ed). Boston: Shambhala.
27. Duncan J (2002) At home in our bodies: an interview with Jon Kabat-Zinn. Tricycle: the Buddhist review, Winter. Available at: https://tricycle.org/magazine/home-our-bodies/.
28. Rahula W (1959/1996) What the Buddha taught (Rev edn.). Nedimala, Sri Lanka: Buddhist Cultural Centre.
29. Greenfield S (2020) The twenty-first century mind. One-day workshop for the Australian Psychological Society, Melbourne.
30. Rosenthal R, Faris S (2019) The etymology and early history of ‘addiction’. Addiction Research & Theory 27: 437-449.
31. Kirsner D (2007) Fresh Freud: no longer lost in translation. Psychoanalytic Psychology 24: 658-666.
32. Phillips A (2007) After Strachey. London Review of Books 19: 36-38.
33. Solms M (2013) Notes on the revised standard edition. Psychoanalytic Review 100: 201-210.
34. Corradi-Fiumara G (1990) The other side of language: a philosophy of listening. Available at: https://www.routledge.com/The-Other-Side-of-Language-A-Philosophy-of

Listening/Fiumara/p/ok/9780415049276?srsltid=AfmBOort00DEkqYdtjihBKSUOkXu1g8w0eebNAkW97UFc6vRKkxLCpVl.
35. Lively P (1987) Moon Tiger. London: Andre Deutsch.
36. Darwin C (1859/1986) On the origin of species by means of natural selection, or the preservation of favoured races in the struggle for life. Available at: https://darwin-online.org.uk/converted/pdf/1861_OriginNY_F382.pdf.
37. Breuer J, Freud S (1895/1955) Studies on Hysteria. Standard edition of the complete psychological works of Sigmund Freud. London: Hogarth Press and the Institute of Psychoanalysis.
38. Kozlowska K (2019) Keynote address: Body comes to Family Therapy: making sense of functional somatic symptoms: the stress-system model. 40th Australian Family Therapy conference, Melbourne, October.
39. Kozlowska K (2013) Stress, distress, and body talk: co-constructing formulations with patients who present with somatic symptoms. Harvard Review of Psychiatry 21: 314-333.
40. Kozlowska K (2017) A stress-system model for functional neurological symptoms. Journal of the Neurological Sciences 383: 151-152.
41. Pollock K (1988) On the nature of social stress: production of a modern mythology. Social Science & Medicine 26: 381-392.
42. Haley J (1984) Ordeal Therapy: unusual ways to change behaviour. San Francisco: Jossey-Bass.
43. Stafford B (1991) Body criticism: imaging the unseen in Enlightenment art and medicine. Cambridge, MA: MIT Press.
44. Carroll L (1871/2018) Through the looking glass (Illustrated Classics). Orinda, CA: Seawolf Press.
45. Doidge N (2007) The brain that changes itself: stories of personal triumph from the frontiers of brain science. Available at: https://www.goodreads.com/book/show/570172.The_Brain_that_Changes_Itself.
46. Freud S (1915/1957) Instincts and their vicissitudes. In Standard edition of the complete psychological works of Sigmund Freud 14: 1-18.
47. Freud S (1923/1061) The Ego and the Id and Other Works. In Standard edition of the complete psychological works of Sigmund Freud (Trans J Strachey). London: Hogarth.
48. Schore A (2001) The effects of early relational trauma on right brain development, affect regulation, and infant mental health. Infant Mental Health journal 22: 201-269.
49. Stern DN (1985) The interpersonal world of the infant: a view from psychoanalysis and development psychology. New York: Basic Books.
50. Trevarthen C, Delafield-Butt J (2013) Biology of shared experience and language development: regulations for the intersubjective life of narratives. In Legerstee M, Haley D, Bornstein M (Eds). The infant mind: origins of the social brain. New York: Guilford Press.